What is Claimed is:

1. A semiconductor device comprising:

a gallium arsenide substrate;

a first electrode layer formed on said gallium arsenide substrate;

a nitride based semiconductor layer formed on said first electrode layer and containing at least one of boron, gallium, aluminum and indium; and

a second electrode layer formed on said nitride based semiconductor layer.

2. The semiconductor device according to claim 1, wherein

said nitride based semiconductor layer includes an active layer.

3. The semiconductor device according to claim 2, wherein

said nitride based semiconductor layer has a striped current injection region for injecting a current into said active layer, said striped current injection region is formed along a $\langle 1\bar{1}00 \rangle$ direction of said nitride based semiconductor layer, and said nitride based semiconductor layer is arranged on said gallium arsenide semiconductor such that the $\langle 1\bar{1}00 \rangle$

direction of said nitride based semiconductor layer coincides with a <110> direction or a <1$\bar{1}$0> direction of said gallium arsenide substrate, and a pair of cavity facets is formed of a {110} plane or a {1$\bar{1}$0} plane of said gallium arsenide substrate and a {1$\bar{1}$00} plane of said nitride based semiconductor layer.

4. A method of fabricating a semiconductor device, comprising the steps of:

forming a first nitride based semiconductor layer containing at least one of boron, gallium, aluminum and indium on an insulating substrate;

forming an insulating film in a predetermined region on said first nitride based semiconductor layer;

forming a second nitride based semiconductor layer containing at least one of boron, gallium, aluminum and indium using epitaxial lateral overgrowth on said first nitride based semiconductor layer and said insulating film;

removing said second nitride based semiconductor layer except in a region on said insulating film;

joining the top surface of said second nitride based semiconductor layer on said insulating film to one surface of a gallium arsenide substrate through a first electrode layer;

removing said insulating film, to remove said

insulating substrate and said nitride based semiconductor layer from said second nitride based semiconductor layer; and

forming a second electrode layer on said second nitride based semiconductor layer.

5. The method according to claim 4, wherein

the step of forming said second nitride based semiconductor layer comprises the step of forming an active layer.

6. The method according to claim 5, wherein

the step of forming said second nitride based semiconductor layer further comprises the step of forming a striped current injection region for injecting a current into said active layer along a <1$\bar{1}$00> direction of said second nitride based semiconductor layer, and

the step of joining the top surface of said second nitride based semiconductor layer to one surface of the gallium arsenide substrate through the first electrode layer comprises the step of matching the <1$\bar{1}$00> direction of said second nitride based semiconductor layer with a <110> direction or a <1$\bar{1}$0> direction of said gallium arsenide substrate,

said fabricating method further comprising

the step of forming a pair of cavity facets by cleavage

along a {110} plane or a {1$\bar{1}$0} plane of said gallium arsenide substrate and a {1$\bar{1}$00} plane of said second nitride based semiconductor layer.

7. A method of forming a nitride based semiconductor layer, comprising the steps of:

forming a first nitride based semiconductor layer containing at least one of boron, gallium, aluminum and indium on an insulating substrate;

forming an irregular pattern including a recess having a bottom surface formed of an insulator and a projection having a top surface formed of an insulator in the surface of said first nitride based semiconductor layer; and

forming a second nitride based semiconductor layer containing at least one of boron, gallium, aluminum and indium on said insulators by growth from said first nitride based semiconductor layer using epitaxial lateral overgrowth.

8. The method according to claim 7, wherein

the step of forming said irregular pattern comprises the steps of

forming said irregular pattern such that said first nitride based semiconductor layer is exposed to the bottom surface of said recess, and

forming an insulating film as said insulator on the bottom surface of the recess of said irregular pattern and forming an insulating film as said insulator on the top surface of the projection of said irregular pattern.

9. The method according to claim 7, wherein the step of forming said irregular pattern comprises the step of forming an insulating film as said insulator in a region on said first nitride based semiconductor layer where the projection of said irregular pattern is to be formed and removing said first nitride based semiconductor such that said insulating substrate is exposed as said insulator except in a region on said insulating film.

10. The method according to claim 7, wherein said irregular pattern has a striped recess and a striped projection which extend along a <11$\bar{2}$0> direction of said first nitride based semiconductor layer.

11. The method according to claim 7, wherein a cross-sectional shape of the projection of said irregular pattern is a rectangular shape or a reversed mesa shape having vertical side surfaces.

12. A semiconductor device comprising:

an insulating substrate;

a first nitride based semiconductor layer formed on said insulating substrate and containing at least one of boron, gallium, aluminum and indium;

an irregular pattern being formed in the surface of said first nitride based semiconductor layer;

insulating films respectively formed on the bottom surface of a recess and the top surface of a projection of said irregular pattern of said first nitride based semiconductor layer;

and a second nitride based semiconductor layer formed on said insulating films and containing at least one of boron, gallium, aluminum and indium.

13. The semiconductor device according to claim 12, wherein

said second nitride based semiconductor layer includes an active layer.

14. A semiconductor device comprising:

an insulating substrate;

a first nitride based semiconductor layer formed on said insulating substrate and containing at least one of boron, gallium, aluminum and indium;

a plurality of striped insulating films formed a

predetermined distance away from each other on said first nitride based semiconductor layer; and

a second nitride based semiconductor layer formed on said first nitride based semiconductor layer and said plurality of striped insulating films and containing at least one of boron, gallium, aluminum and indium,

said second nitride based semiconductor layer including an active region of the device above said plurality of striped insulating films.

15. The semiconductor device according to claim 14, wherein

said active region includes a light emitting portion.

16. The semiconductor device according to claim 15, wherein

said second nitride based semiconductor layer has a striped current injection region for injecting a current into said light emitting portion, and said second nitride based semiconductor layer comprises a pair of cavity facets perpendicular to said striped current injection region.

17. The semiconductor device according to claim 15, wherein

said plurality of striped insulating films are formed

along a <11$\bar{2}$0> direction of said first nitride based semiconductor layer.

18. A method of fabricating a semiconductor device, comprising the steps of:

forming a first nitride based semiconductor layer containing at least one of boron, gallium, aluminum and indium on an insulating substrate,

forming a plurality of striped insulating films a predetermined distance away from each other on said first nitride based semiconductor layer; and

forming a second nitride based semiconductor layer containing at least one of boron, gallium, aluminum and indium using epitaxial lateral overgrowth on said first nitride based semiconductor layer and said plurality of striped insulating films, to form an active region of the device above said plurality of striped insulating films.

19. A method of forming a nitride based semiconductor layer, comprising the steps of:

forming a first nitride based semiconductor layer containing at least one of boron, gallium, aluminum and indium on an insulating substrate;

forming an irregular pattern having exposed side surfaces in said first nitride based semiconductor layer; and

forming a second nitride based semiconductor layer containing at least one of boron, gallium, aluminum and indium on said irregular pattern by growth from said exposed side surfaces of said irregular pattern on said first nitride based semiconductor layer using epitaxial lateral overgrowth.

20. The method according to claim 19, wherein the step of forming said irregular pattern comprises the steps of

forming said irregular pattern such that said first nitride based semiconductor layer is exposed to the bottom surface of a recess, and

forming insulating films on the bottom surface of the recess of said irregular pattern and the top surface of the projection of the irregular pattern.

21. The method according to claim 19, wherein the step of forming said irregular pattern comprises the step of

forming an insulating film in a region on said first nitride based semiconductor layer where the projection of said irregular pattern is to be formed, and removing said first nitride based semiconductor such that said insulating substrate is exposed except in a region on said insulating film.